

CLAIMS

What is claimed is:

- 1 1. A triangulation-type optical displacement sensor having one or more light-emitting
2 elements for projecting light onto one or more targets to which one or more distances is
3 or are to be measured, and one or more light-receiving elements, at least one of the light-
4 receiving element or elements receiving at least a portion of the light reflected from at
5 least one of the distance measurement target or targets and disposed such that at least one
6 light-receiving surface thereof is substantially perpendicular to at least one optical axis of
7 at least a portion of the projected light, comprising:
8 one or more slits narrowing one or more light beams projected toward at least one of
9 the distance measurement target or targets, and one or more slits narrowing at least a
10 portion of the light reflected from at least one of the distance measurement target or
11 targets.
- 1 2. A triangulation-type optical displacement sensor having one or more light-emitting
2 elements for projecting light onto one or more targets to which one or more distances is
3 or are to be measured, and one or more light-receiving elements, at least one of the light-
4 receiving element or elements being receiving at least a portion of the light reflected
5 from at least one of the distance measurement target or targets and disposed such that at
6 least one light-receiving surface thereof is substantially perpendicular to at least one
7 optical axis of at least a portion of the projected light, comprising:
8 one or more slits narrowing one or more light beams projected toward at least one of
9 the distance measurement target or targets, and one or more light collecting elements
10 collecting at least a portion of the light reflected from at least one of the distance
11 measurement target or targets.
- 1 3. An optical displacement sensor according to claim 2,
2 wherein at least one of the light collecting element or elements is a cylindrical lens.
- 1 4. An optical displacement sensor according to claim 1,
2 wherein one or more filters is or are arranged at the exit side of at least one of the slit
3 or slits narrowing one or more light beams projected toward at least one of the distance
4 measurement target or targets, and one or more filters is or are arranged at the incident

5 side of at least one of the slit or slits narrowing at least a portion of the light reflected
6 from at least one of the distance measurement target or targets.

1 5. An optical displacement sensor according to claim 2 or 3,
2 wherein one or more filters is or are arranged at the exit side of at least one of the slit
3 or slits narrowing one or more light beams projected toward at least one of the distance
4 measurement target or targets.